

Final Capstone Project

Planning a Potential Location for Opening a Hotel Business in British Columbia, Canada



Introduction:

An international hotel business company wants to set a new venture in British Columbia of Canada. The company can be based in any location of the world yet make educated decisions for choosing a potential location by taking help of data scientist employees. With the resources and tools of data science it is possible for a data scientist to produce accurate results that can aid in making such an educated decision. So, the business problem for this project is how to make correct decision in choosing a location for the hotel opening and also what factors may affect the profit of a new hotel. To answer these the following program has been created.

Business Understanding and modelling:

From our business understanding we reach a strategy that the lesser the competition of a place, the better is the chance of striving in Business. Also, it must be made sure that the hotel business will be demanding in the area. If both the criteria come to a best match then we have our location of choice. It is extremely important to categorize locations in light of competition and demand.

Target Audience

This model can be very useful for big investors looking for data that can aid them in making their next great investment. The great thing about this model is that it provides data that is so accurate and can help in making very educated decisions resulting in minimization of loss and maximization of profit. Besides big investors, it can also be used by anyone planning to open any kind of franchise or venue at a location near or far. Just by fetching the geographical coordinates of a different location we can map the business market of that location. So, there is huge flexibility in the location of choice, in fact the entire globe is reachable, and in the kind of franchise of interest.

Required Data

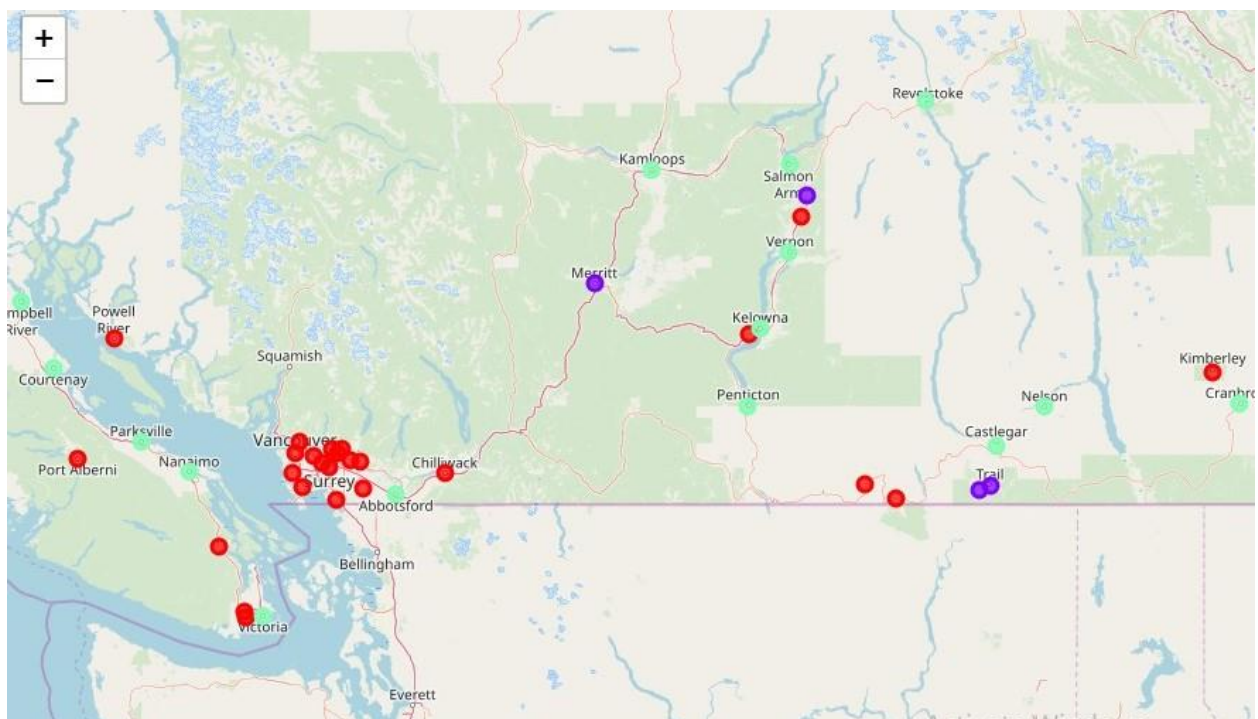
- The geographical coordinates of every city in British Columbia is necessary to explore the presence of different hotels and also the kind of market that exists in those locations.
- A list of available franchises and a list of thriving businesses are required.
- For exploring hotel competition, we need ratios of hotels in different areas.
- Venue data is important to see what kind of market is demanding there

Source of Data

From Wikipedia, the list of cities in British Columbia is collected and passed to our program where the list of geographical coordinates is collected by the geolocator API. With this we can map the area and also create lists of cities with their coordinates. With FourSquare API the list of venues is collected using the list of geographical coordinates. Each venue can be explored. We chose our target venue- hotel- and derive the data.

Data Methodology

Firstly, every city name is collected to explore down the road. For local exploration coordinates are important. The list of collected geographic coordinates is used to call the list of venues using the API. This gives us a clear understanding of the kind of market demanding at British Columbia. We particularly select hotel venues to see the ratio of competition prevailing in each area. By clustering the locations in to different data frames according to their ratios, a clear picture of the competition becomes visible. We can map the location using folium to give us a visual understanding of the clustered data and help us reach decisions.



Results:

From the data clusters we derive three different results that have been mapped with different colors.

1. The zero clusters show locations with low competition
2. The one clusters show locations with moderate concentration of hotels
3. The two clusters show locations with high concentration of hotels

Discussion:

This program is very flexible and can be manipulated in number of ways to fetch different kind of information necessary for business firms. It can efficiently give us insight in to the different factors that affect a business. There is plenty of room for discussing different parameters and bring in to considering the influencing factors. A few adjustments in to the program can give insight into more of these influencing factors and help in forming a neat business strategy.